INSTALLATION

HS4514 Series High Security Enclosure

C1472M-E (1/07)

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Important Safety Instructions

1. Installation and servicing should be done only by qualified service personnel and conform to all local codes.
2. Only use replacement parts recommended by Pelco.
3. After replacement/repair of this unit's electrical components, conduct a resistance measurement between line and exposed parts to verify the exposed parts have not been connected to line circuitry.
4. The installation method and materials should be capable of supporting four times the weight of the enclosure, pan/tilt, and camera and lens combination.

The product may bear the following marks:

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

CAUTION:
RISK OF ELECTRIC SHOCK. DO NOT OPEN.

Please thoroughly familiarize yourself with the information in this manual prior to installation and operation.

Description

The HS4514 Series of high security environmental enclosures is designed for use with 1/3-inch CCD format cameras with fixed auto iris or motorized zoom lenses.

The viewing window is Lexgard® RS1250 laminate with a Margard® surface.

Constructed from steel to provide maximum protection and durability, the HS4514 Series enclosures are engineered for ease of installation and service. The removable top allows convenient access to the camera and lens for periodic servicing and/or adjustments. The HS4514 Series also features a removable camera sled that can be inverted to accommodate various camera and lens combinations. Tamper-resistant screws secure the enclosure cover.

The HS4514-1/-2 enclosures are equipped with a factory-installed, thermostatically controlled heater.

The HS4514 Series is designed for fixed mount applications.

MODELS

HS4514	High security, environmental enclosure
HS4514-1	Same as HS4514 except with 120 VAC thermostatically controlled heater
HS4514-2	Same as HS4514 except with 24 VAC thermostatically controlled heater

Installation

The following items are supplied:

1 HS4514 Series enclosure

1 #10 socket for tamper-resistant screws (1/4-inch drive tool is not provided)

1 Three-pin plug with leads (included with -1/-2 models with heater)

2 1/4-20 Phillips screws (to mount enclosure)

1 Steel eyebolt

ENCLOSURE MOUNTING

1. Place the enclosure on a flat surface with the top facing up. Open the enclosure using the following procedure:

   a. Remove the four tamper-resistant screws securing the enclosure cover using the #10 socket for tamper-resistant screws (provided) and your 1/4-inch drive tool. (Drive tool is not provided.)

   b. Separate the top and bottom enclosure sections.

2. Remove the camera sled from the rail by loosening the two 10-32 Phillips screws and sliding the sled to the rear.

3. Install two wiring fittings in the bottom of the enclosure.

   If the enclosure is installed outdoors, be sure that watertight fittings are installed. If conduit or other wiring fittings are used, be sure the fittings are sealed to prevent water from getting inside the enclosure.

WARNING: To maintain watertight standards, proper cabling must be used when wiring the enclosure. Use of flat cable or multiple cables will prevent the proper seal of connectors. Outdoor rated sheathing should cover multiple cables.

4. Reassemble the top and bottom enclosure sections and lift the enclosure into place for mounting.

   Optional: The enclosure can easily be lifted with the optional steel eyebolt (eyebolt included). Install the steel eyebolt and lift the enclosure using the following procedure:

   a. Remove the Phillips screw and washer from the captive nut located in the back of the enclosure. Set the Phillips screw aside.

   b. Install the steel eyebolt in the captive nut. Firmly tighten but do not overtighten.

   c. Attach a hoist line to the steel eyebolt. Be sure the hoist line and any lifting hardware are sufficiently strong enough to support the weight of the enclosure. Hoist the enclosure into place.

5. Locate the two threaded mounting holes on the bottom of the enclosure. Using two 1/4-20 screws that do not exceed 5/8-inch (1.59 cm) in length (not supplied with the enclosure), mount the enclosure to a fixed mount.

   If you lifted the enclosure with the aid of the steel eyebolt, remove the eyebolt and reinstall the Phillips screw and washer.

6. After the enclosure is mounted, opening the enclosure is more convenient using the following procedure:

   a. Remove the two tamper-resistant screws securing the front of the enclosure cover.

   b. Loosen, but do not remove, the two tamper-resistant screws securing the rear of the enclosure cover.

   c. Push the top of the enclosure back approximately 1/4-inch (0.63 cm) and flip the top open.

   d. Reverse the procedure to close.

ENCLOSURE POWER

If the enclosure does not have a heater (model HS4514), proceed to the *Camera Mounting* section.

If your enclosure has a heater (models HS4514-1/-2), follow the steps below.

1. Add the camera wattage to the wattage of the heater. Refer to the *Specifications* section, for the heater wattage.
2. Determine the size of wire to use. If you are using 24 VAC, refer to Table A.
3. Bring wires for AC high, AC neutral, and ground into the enclosure. Refer to Figure 1 and Figure 2, and connect the wiring as follows:
   a. Connect AC high to AC HI of the 3-connector terminal block.
   b. Connect AC neutral to AC NT of the 3-connector terminal block.
   c. Connect ground to GND of the 3-connector terminal block.

Table A. 24 VAC Wiring Distances

The following are the recommended maximum distances for 24 VAC applications and are calculated with a 10 percent voltage drop. (Ten percent is generally the maximum allowable voltage drop for AC-powered devices.)

		Wire Gauge						
		20	18	16	14	12	10	
Total VA consumed	10	283 (86)	451 (137)	716 (218)	1142 (348)	1811 (551)	2880 (877)	**Maximum distance from transformer to load**
	20	141 (42)	225 (68)	358 (109)	571 (174)	905 (275)	1440 (438)	
	30	94 (28)	150 (45)	238 (72)	380 (115)	603 (183)	960 (292)	
	40	70 (21)	112 (34)	179 (54)	285 (86)	452 (137)	720 (219)	
	50	56 (17)	90 (27)	143 (43)	228 (69)	362 (110)	576 (175)	

EXAMPLE: An enclosure that requires 30 VA and is installed 94 feet (28 m) from the transformer would require a minimum wire gauge of 20 AWG.

NOTE: Distances are calculated in feet; values in parentheses are meters.

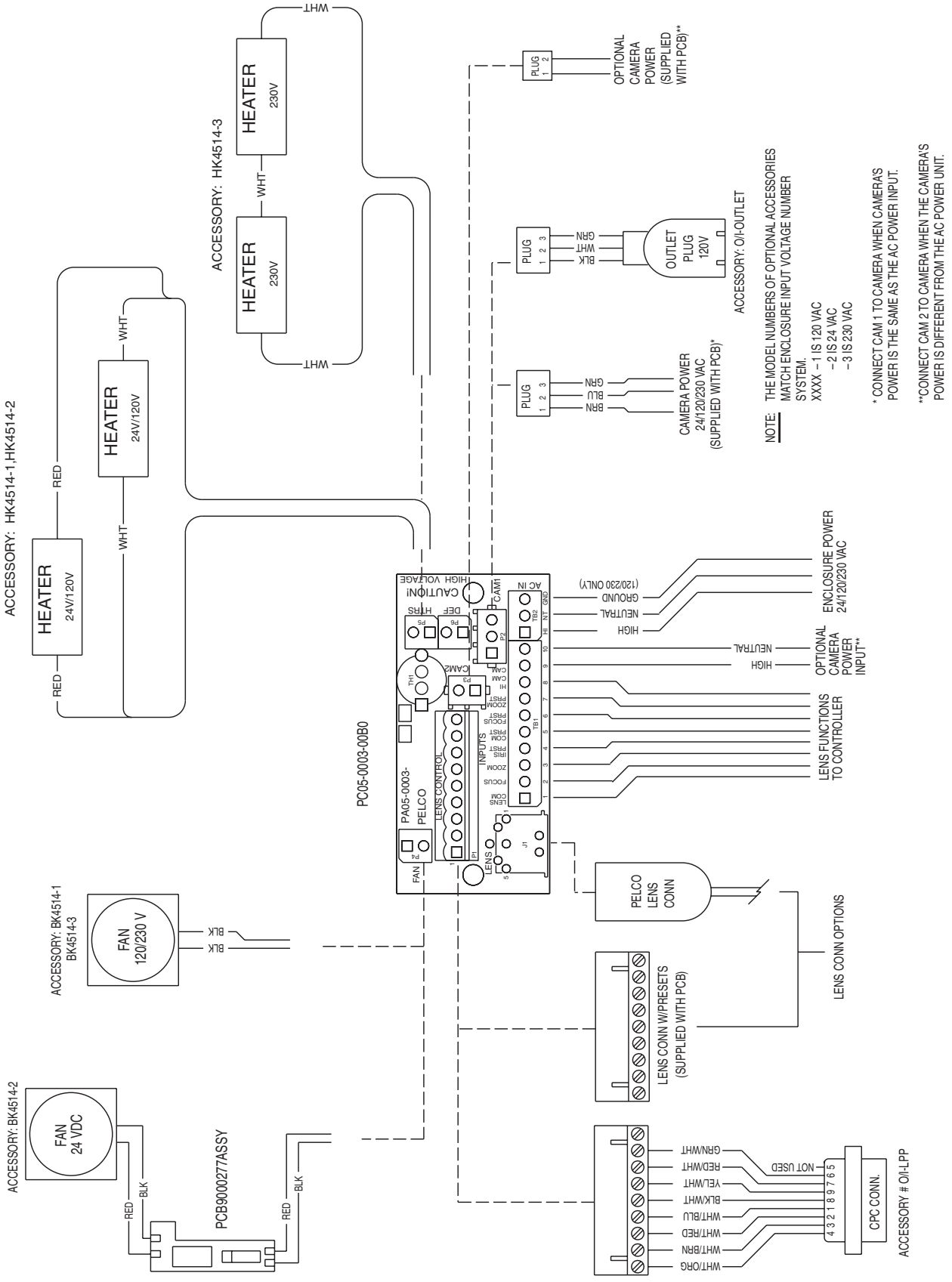

Figure 1. HS4514 Series Input Wiring Diagram

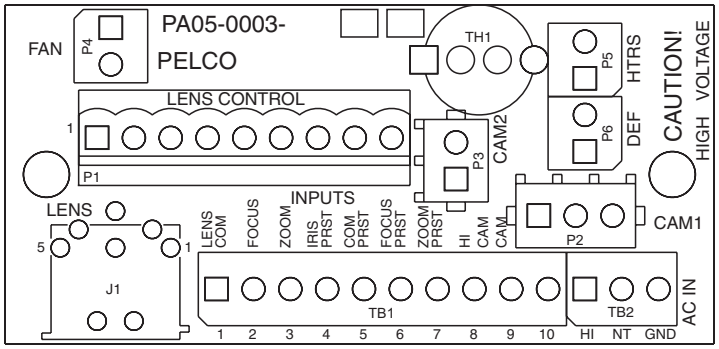

Figure 2. Circuit Board Component Locations

Table B. Video Coaxial Cable Wiring Diagram

Cable Type*	Maximum Distance
RG59/U	750 ft (229 m)
RG6/U	1,000 ft (305 m)
RG11/U	1,500 ft (457 m)

*Cable requirements:
75 ohms impedance
All-copper center conductor
All-copper braided shield with 95% braid coverage

CAMERA MOUNTING

1. Attach the camera to the sled with the 1/4-20 Phillips screws that are provided in the parts bag. Attach the camera so that it is inside the "U" shape of the sled.
2. Install the sled and camera in the enclosure:
   a. If the camera's lens is varifocal, extend the lens to its maximum length. This will ensure that the lens has enough clearance and will not come in contact with the window during scene setup.
   b. Place the sled over the mounting screws in the enclosure. Depending on the height required for the camera inside the enclosure, the sled can be installed so that its base faces either the top or the bottom of the enclosure.
   c. Slide the camera sled forward until the lens almost touches the window.
   d. Tighten the two 10-32 Phillips screws and secure the camera sled to the rail.

WIRING CAMERA AND LENS

1. Bring a coaxial cable into the enclosure and connect the camera's video output. Refer to Table B for cable distances.
2. Bring wiring into the enclosure for camera synchronization and motorized lens if you are going to use these functions. Connect the wiring to the circuit board. (Refer to Figures 1 and 2.)

   HS4514 model only: Connect the wiring from the lens controller directly to the lens connection.

   HS4514-1/-2 models with heater: Refer to Figures 1 and 2 and wire the motorized zoom lens control as follows:

   a. Connect or wire the lens control from the camera to the LENS or LENS CONTROL connector on the circuit board.

   b. Wire the lens controller to the 10-connector INPUTS terminal on the circuit board as follows:

Lens Common	Connector 1
Focus	Connector 2
Zoom	Connector 3
Iris	Connector 4
Preset Common	Connector 5
Preset Focus	Connector 6
Preset Zoom	Connector 7
Preset High	Connector 8

WIRING CAMERA TO POWER

WARNING: Camera damage is possible if you connect your camera to the wrong connector. CAM 1 is enclosure power. Never plug your camera into CAM 1 if the camera's voltage is different from the enclosure's voltage.

If your camera will use the same voltage as the enclosure, plug the camera into the CAM 1 socket on the circuit board inside the enclosure.

If your camera's voltage will be different from the enclosure's voltage, plug the camera into the CAM 2 socket only. *Do not* plug the camera into the CAM 1 socket or you can damage your camera. CAM 1 has enclosure voltage on it.

HS4514 MODEL ONLY

Bring the camera wiring into the enclosure. If you are using 24 VAC refer to Table A, 24 VAC Wiring Distances, to determine the size of wire to use. Connect the power leads to the camera.

HS4514-1/-2 MODELS WITH HEATER

If the camera will use the same voltage as the enclosure's heater, there are two options for connecting power:

1. A three-pin plug with leads is supplied as loose equipment. Connect the leads from the plug to the camera as follows:

Brown	AC HI
Blue	AC NT
Green	Ground

Refer to Figures 1 and 2 and connect the plug to the CAM 1 socket on the circuit board.

2. If both the camera and enclosure use 120 VAC and you ordered the optional 120 VAC electrical outlet accessory (O/I OUTLET), connect the 120 VAC plug to the camera and the three-pin plug to CAM 1.

If the camera will use a different voltage than the enclosure's heater perform the following steps.

1. Bring in wires for AC high and AC neutral. If you are using 24 VAC, refer to Table A. Connect the wires as follows:

   Connect AC high to connector 9 of the 10-connector INPUTS terminal block.

   Connect AC neutral to connector 10 of the 10-connector INPUTS terminal block.

2. Connect the leads from the two-pin plug, which is supplied as loose equipment, to the camera as follows:

   Brown AC HI

   Blue AC NT

Refer to Figures 1 and 2 and connect the plug to the CAM 2 socket on the circuit board.

FINAL INSTALLATION

1. Adjust the focus and iris on the camera, if necessary.
2. Reassemble the top and bottom enclosure sections.
3. Install and tighten the four tamper-resistant screws in the enclosure cover. Do not over tighten.
4. If the enclosure is installed outdoors and has watertight fittings installed on the bottom of the enclosure, be sure the fittings have been tightened enough to prevent water from getting inside the enclosure.

Troubleshooting

If you need to troubleshoot the circuit board or wiring, refer to Figure 1 and Figure 2.

After the enclosure is mounted, opening the enclosure is more convenient using the following procedure:

1. Remove the two tamper-resistant screws securing the front of the enclosure cover.
2. Loosen, but do not remove, the two tamper-resistant screws securing the rear of the enclosure cover.
3. Push the top of the enclosure back approximately 0.25 inch (0.63 cm) and flip the top open.
4. Reverse the procedure to close.

Maintenance

Regularly scheduled maintenance is not required. Clean the outer surface of the enclosure with a nonabrasive cleaning cloth and antistatic cleaner. Clean the viewing window with a mild nonabrasive soap and water to maintain picture clarity. Do not use kerosene or similar substances that may damage the surface.

SERVICE MANUAL

If you need to repair the camera enclosure, obtain a service manual in one of the following ways:

- Go to Pelco's web site at ftp://www.pelco.com and find service manual C1472SM.
- Contact Pelco's Literature Department and request service manual C1472SM.

Specifications

MECHANICAL

Camera Mounting	Removable camera sled that can be inverted to accommodate various cameras and lenses
Maximum Camera and Lens Size	Accepts camera and lens combinations (including BNC connector) up to:
HS4514	6.70" H x 5.25" W x 14.0" L (17.02 x 13.34 x 35.56 cm)
HS4514-1/-2	6.25" H x 3.75" W x 12.0" L (15.88 x 9.53 x 30.48 cm)
Cable Entry	Two openings 0.875-inch (2.22 cm), will accept PG-13.5 watertight fittings. Maximum cable diameter 0.47-inch (1.19 cm) or 1/2-inch (1.27 cm) conduit fittings (fittings not provided).
Lock	Four 1/4-20 tamper-resistant screws (#10 1/4-inch drive socket for removing screws supplied; 1/4-inch drive tool not provided)

ELECTRICAL

Power Input	24, 120, or 230 VAC; 50/60 Hz		
Heater Power Consumption	120 VAC	24 VAC	230 VAC
HS4514-1/-2	60 watts	50 watts	55 watts
	Heater is thermostatically controlled to activate ON at 42°-58°F (6°-14°C) and OFF at 72°-88°F (22°-31°C)		
Electrical Connections	One each of the following:		
	3-pin connector terminal block for power input		
	6-pin lens connector		
	9-pin connector terminal block for lens wiring		
	10-pin connector terminal block for camera/lens wiring		
	2-pin connector terminal block for spare connections		
	3-pin socket for camera power input		
	2-pin socket for optional camera power input		
	4-pin socket for heaters		

GENERAL

Construction Body	0.134-inch thick steel
Viewing Window	1.25-inch (31.75 mm) thick, optically clear, LEXGARD® RS1250 laminate with MARGARD®surface (UL 752, Level 6 rated)
Viewing Window Area	3.44" H x 4.75" W (8.74 x 12.07 cm)
Finish	Gray polyester powder coat
Ratings	Meets IP 55 and NEMA Type 3 standards
Environment	Indoor/outdoor; -10° to 100°F (-23° to 38°C)
Dimensions	20.07" L x 6.32" W x 6.13" H (50.98 x 16.05 x 15.57 cm)
Weight	27 lb (12.25 kg)

(Design and product specifications subject to change without notice.)

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on FT/FR8000 Series fiber optic products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Three years on PMCL 200/300/400 Series LCD monitors.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra®, Esprit®, ExSite™, and PS20 scanners, including when used in continuous motion applications.
- Two years on Esprit® and WW5700 Series window wiper (excluding wiper blades).
- Two years (except lamp and color wheel) on Digital Light Processing (DLP®) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Eighteen months on DX Series digital video recorders, NVR300 Series network video recorders, Endura™ Series distributed network-based video products, and TW3000 Series twisted pair transmission products.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800)þ289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:

Service Department
Pelco
3500 Pelco Way
Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco
3500 Pelco Way
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors
473 Eccles Avenue
South San Francisco, CA 94080 USA
Phone: 650-737-1700
Fax: 650-737-0933

Green The materials used in the manufacture of this document and its components are compliant to the requirements of Directive 2002/95/EC.

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

REVISION HISTORY

Manual #	Date	Comments
C1472M	7/98	Original version.
	10/98	Revised certifications.
C1472M-A	7/99	Revised certifications. Added Service Manual information to *Maintenance* section. Updated to new format.
C1472M-B	6/05	Removed agency logos from cover; updated warranty and return information.
C1472M-C	10/05	Revised to include disclaimer for heater in Models HS4514-1 and HS4514-2.
C1472M-D	9/06	Updated to new format. Updated viewing window specifications per ECO 05-13433. Removed obselete model HS4514-3.
C1472M-E	1/07	Updated viewing window specifications and rating.

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